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Reed S. Oslan
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April 26, 1996

VIA MESSENGER

Edward Hanlon
On-Scene Coordinator
U.S. EPA Region V, SR-6J
77 West Jackson Blvd.
Chicago, Illinois 60604-3590

Re: **Dutch Boy Site**

Dear Mr. Hanlon:

As promised, enclosed are additional materials regarding Ranjit Machado and Environ Corporation. Please call me if you have any questions or comments.

Very truly yours,

Reed S. Oslan

Enclosures

cc: Christine M. Liszewski, Esq. (w/o encl.)

ENVIRON

April 24, 1996

Reed S. Oslan, Esq.
Kirkland & Ellis
200 E. Randolph Drive
Chicago, IL 60601

re: Dutch Boy Superfund Site

Dear Mr. Oslan:

I understand that NL Industries, Inc. intends to nominate me for the role of Project Coordinator, as described in the unilateral Administrative Order for the Dutch Boy site. I welcome this opportunity to provide a statement of our qualifications for this position.

The materials enclosed with this letter include a corporate overview, a summary of our relevant experience, and descriptions of our work on recent, primarily lead-related projects that may be relevant to our role at the Dutch Boy site. Also enclosed are the resumes of the ENVIRON employees who will be most involved in this project, our corporate brochure, and fact sheets that describe our qualifications in specific areas.

At the April 11, 1996 conference with EPA, Ed Hanlon suggested that we provide a list of EPA references as part of our qualifications. I have listed below several individuals at EPA Region V that I have had the opportunity to work with in the last 2 years.

William Muno	David Ullrich	Karl Bremer	Harriet Croke
Carole Braverman	Gary Victorine	Mario Mangino	Pamela Blakeley

All of these individuals have worked with ENVIRON on the WTI project and are familiar with the caliber of our work. Other individuals I have worked with outside Region V include:

Kim O'Connell (212) 637-4399	Region II: Chief, Southern NJ Section	NSNJ Superfund Site
Eugene Dennis (215) 597-3153	Region III: Remedial Project Manager	Tyson's Lagoon Site
Jon Gorin (212) 637-4361	Region II: Remedial Project Manager	Tom's River Site

In addition, ENVIRON is presently the EPA-approved Project Manager at a lead site, the Gould Superfund Site, in Region X. Chip Humphrey (503 326-2678) is the Regional Project

Manager for the Gould Superfund Site.

I hope these materials meet your needs. Please let me know if you require additional information. We look forward to working with you on this project.

Very truly yours,

Ranjit Machado

Ranjit J. Machado, P.E.
Manager

Encl.

ENVIRON QUALIFICATIONS

Corporate Overview

ENVIRON International Corporation is a 315-person health and environmental consulting firm with offices in Princeton, New Jersey; Arlington, Virginia; Emeryville, California; Irvine, California; Novato, California; and Houston, Texas. Established in 1982, ENVIRON provides multidisciplinary consulting services primarily to private sector organizations, including industrial companies, trade associations, insurance companies, and law firms. ENVIRON has successfully completed over 3,000 assignments and has gained a national reputation in the areas of environmental and public health risk assessment, design and implementation of site-specific remediation plans, and analysis of the fate and transport of environmental releases.

ENVIRON provides technical and scientific support to our clients by identifying and describing the nature and extent of risks to public health and the environment involved with the use, treatment, storage, and disposal of toxic substances. We have a qualified staff of individuals with extensive education, training, and experience in three major practice areas. One major practice area is health and environmental science; our professional staff members in this area are trained in a variety of disciplines, including toxicology, biochemistry, microbiology, epidemiology, biostatistics, and public health. Another practice area is environmental engineering; within this area, ENVIRON specializes in conceiving, evaluating, and designing site remediation measures. Staff members employed in this practice area have professional training in environmental, civil, and chemical engineering, and in chemistry. In the third major practice area, geosciences, ENVIRON specializes in studies of the fate and transport of contaminants in the environment. Those employed in this practice area have professional training in chemistry, geology, and hydrogeology. By combining the skills of individuals involved in these three practice areas, the firm is uniquely able to integrate health, environmental, and engineering data into comprehensive assessments with immediate decision-making utility.

Summary of Relevant Experience

ENVIRON has extensive experience with Superfund sites, including many sites at which lead is the primary contaminant of concern. We have assisted private and public sector clients with analysis, negotiation, and resolution of the complex technical, regulatory, and legal issues addressed by Superfund regulations and guidance. ENVIRON's work has involved all phases of site evaluation and remediation, including the following:

- conducting Remedial Investigations and Feasibility Studies;
- preparing environmental and public health risk assessments;
- developing cost apportionment schemes as part of settlement negotiations among PRPs;
- conducting engineering studies of alternative site remediation technologies;
- supervising contractors for remedial design/remedial action;
- providing citizens' groups with technical assistance through the USEPA's Technical Assistance Grant (TAG) program; and
- offering scientific staff support to the USEPA Office of Policy Development and Office of Solid Waste, and to the Congressional Office of Technology Assessment.

ENVIRON's approach to the evaluation of Superfund sites and to the selection of remedial alternatives differs from that of many traditional engineering consultants in that our firm's work has been founded on, and is often guided by, a strong scientific basis in health and environmental risk assessment.

Project Experience Relevant to the Dutch Boy Superfund Site

The following paragraphs describe some of ENVIRON's experiences, primarily relating to lead, that may be relevant to the Dutch Boy project:

- NSNJ Superfund Site, New Jersey
  ENVIRON provided technical support to a PRP at this former lead smelting site in the RI, FS, and ecological assessment at the site and commenting on the Proposed Plan.

ENVIRON has been involved in this process for several years, and has evaluated several potential and proven technologies for site-wide remediation and containment of lead-bearing materials. Besides soil contamination, slag and dross piles exist at the site, and contamination of stream sediments and ground water has occurred.

- **Gould Superfund Site, Oregon**
  This site was formerly used for lead smelting and battery recycling. ENVIRON is serving as the EPA-approved Project manager at the site. Accomplishments to date on this project include preparation of a Focused Feasibility Study, additional site investigation and evaluation, and submission of an amended remedy document.

- **NL/Taracorp Superfund Site, Illinois**
  ENVIRON prepared and submitted written comments on the ROD for the NL/Taracorp Superfund Site (a former lead smelter) in Granite City, Illinois, on behalf of a PRP group. The remedy selected by the USEPA for this site involves removal and replacement of soils and debris that have elevated levels of lead, disposal of this material on a waste pile, and capping of the expanded pile. ENVIRON also assisted in development of a Good Faith Offer, field testing of a proposed remedial alternative, and design of a blood lead study for this site.

- **C&R Battery Superfund Site, Virginia**
  ENVIRON was retained by the PRP group for this former battery-breaking site to review and provide comments on the RI, FS, Proposed Plan, and ROD. The contaminant of concern was lead, and the affected media included soils and ground water. ENVIRON's comments focused on deficiencies in the baseline risk assessment, which USEPA agreed was overly conservative.

- **Marathon Battery Superfund Site, New York**
  At the Marathon Battery site, ENVIRON reviewed and provided suggestions for alteration of a design for remediation of cadmium-contaminated sediments in the Hudson River. The initial design included dredging of over 100,000 cubic yards of sediments from the river, dewatering and stabilizing the sediments, disposing of the dredged materials off-site in a solid waste landfill, and restoring the wetlands. ENVIRON presented value-engineering design alternatives involving dredging methods that would be more protective of the environment, and for less costly stabilization methods that would significantly reduce the volume of material requiring off-site disposal. ENVIRON also proposed an innovative, state-of-the-art method for assessing the biotoxicity of contaminated sediments for use during post-dredging sampling to evaluate dredging effectiveness. USEPA Region II agreed to consider these design alternatives (involving remediation cost savings in the range of about $15 million to $20 million) in negotiating a consent agreement with the PRP for remedy implementation.

- **Battery Plant Site, Pennsylvania**
  On behalf of an industrial client, ENVIRON conducted a baseline risk assessment as

part of the RCRA Facility Investigation (RFI) currently being performed at a site with lead, PCB, and PAH contamination in Pennsylvania. ENVIRON also developed an strategy for evaluating the potential risks posed by current and projected future conditions at the site, and in selecting a cost-effective remedy to address these risks. This strategy makes use of the Integrated Exposure Uptake/Biokinetic Model for lead.

- Whitmoyer Superfund Site, Pennsylvania
  ENVIRON is overseeing the Remedial Design (RD) and Remedial Action (RA) for the Whitmoyer site in USEPA Region III, one of the most complex Superfund sites in the eastern United States. The Whitmoyer facility was used from the 1950s through the mid-1980s to produce a variety of veterinary pharmaceuticals, including organoarsenicals. The clean-up of the site involves over a dozen former lagoons, approximately 500,000 cubic yards of contaminated soils, an on-site and off-site ground water plume, an underground vault containing drums of still bottom wastes, and over a dozen contaminated site structures and buildings. ENVIRON has been designated as the Remedial Design Professional and Supervising Contractor. In these roles, ENVIRON has developed RD work plans for each of the five operable units; supervised treatability testing at both bench-scale and full-scale; developed 30, 90, and 100 percent design documents; prepared bid documents; developed sampling and analysis plans; collected and arranged for analysis of samples from buildings, soils, lagoons, and vault wastes; and provided field oversight of the RA contractors.

- Multiple Sites, Tenneco Gas Pipeline Company
  ENVIRON was retained by the Tenneco Gas Pipeline Company to assist in the development of remedial approaches for PCBs and other Hazardous Substances List (HSL) compounds in over 50 gas compressor stations in 10 states. The scope of remediation includes contaminated soils, sediments, ground water, drain lines, equipment, and building surfaces. ENVIRON's role in the project includes providing overall project management support to the client team, overseeing site characterization, developing cleanup goals, selecting remedial technologies, and developing cleanup plans. ENVIRON is actively involved in ongoing negotiations with various USEPA Regions concerning the development of a Consent Decree to address site characterization, cleanup goals, post-remedial verification sampling, and remedial technologies. Risk assessment has been employed in delineating areas of the sites requiring additional characterization and in developing PCB cleanup goals.

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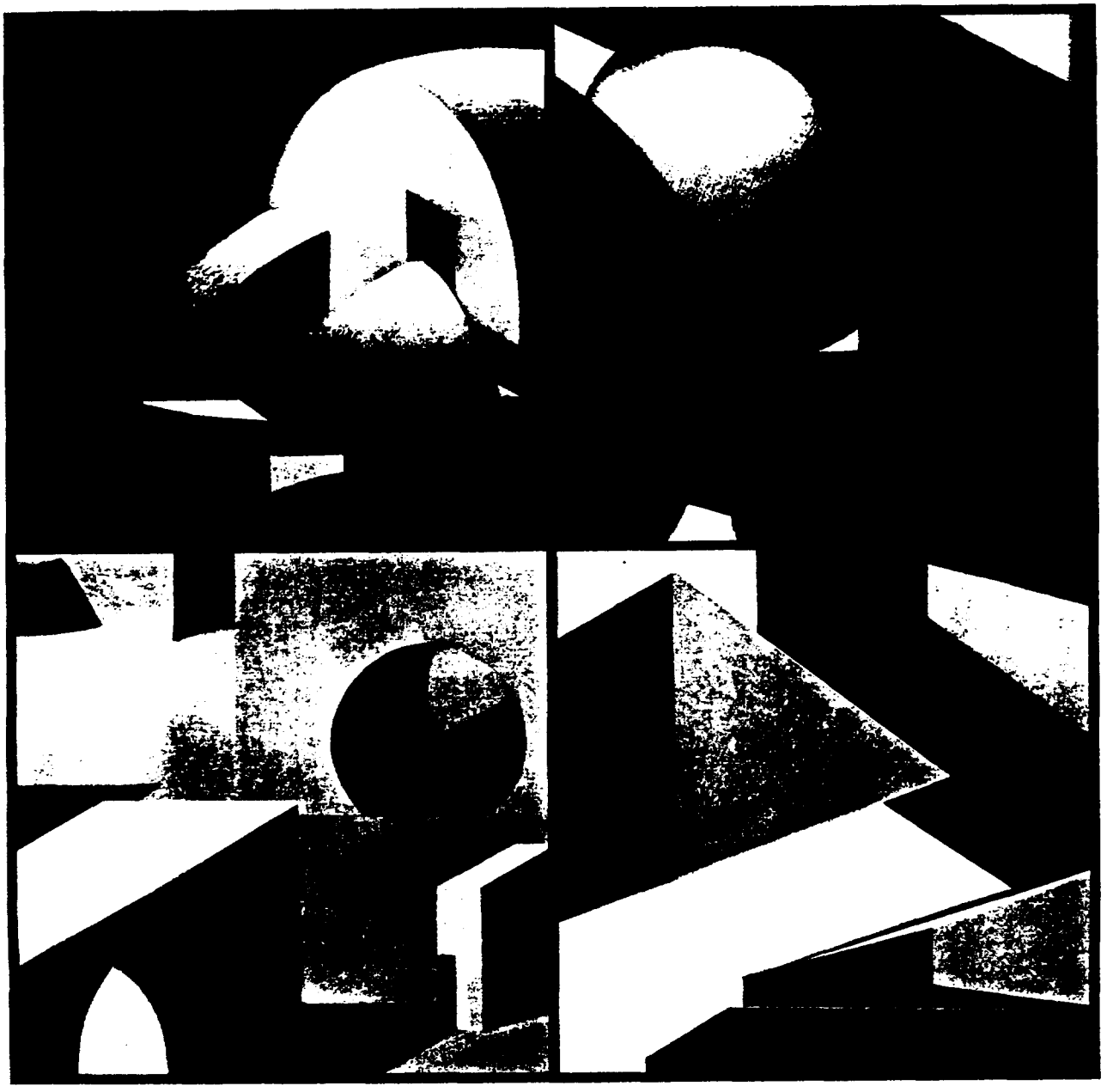


The Rewards of Managing **Risk**

Today, decision makers are increasingly called upon to consider the consequences of their actions to human health and the environment. Indeed, the very options frequently being weighed involve choices between alternative courses of action to balance health and environmental risks and economic concerns. In today's world, the difference between effective and ineffective risk management can be the difference between success and failure.

At ENVIRON, we understand the pitfalls and obstacles facing decision makers. We also understand the serious liabilities that can result from inappropriate decisions. That is why we have assembled an outstanding, multidisciplinary group of scientists and engineers to assist our clients in addressing the complex technical, scientific, and policy issues associated with their risk management decisions. Whether the situation calls for a single expert witness, a team of technical professionals, or a crew of qualified field personnel, we have the resources to assemble a project team befitting the need.

Decision makers rely on ENVIRON's technical experts in a wide variety of matters involving chemical risks to human health and the environment. Our professionals assist clients in effectively managing risk, whether the issue at hand is evaluating possible liabilities associated with a commercial transaction; demonstrating the safety of a drug, medical device, food additive, industrial chemical, or consumer product; determining the environmental fate and transport of chemicals; characterizing the nature and extent of site contamination and designing an effective remedy; providing technical and strategic support in toxic tort and product liability litigation; or in other ways addressing the risks associated with exposure to toxic substances.

Unrivaled **Expertise**

Today's decision makers must have a high degree of confidence in the risk management decisions they make. And since these decisions are often reached with the assistance of technical consultants, this means a high degree of confidence in the technical professionals selected to provide that assistance. At ENVIRON, we have assembled a team of scientists, engineers, and policy specialists with unrivaled educational and professional credentials, and unmatched sophistication and insight.

Education

The members of our professional consulting staff have studied and conducted research at some of the finest institutions and in the most well-respected programs in their disciplines. More than 80% of our technical professionals hold advanced degrees. A full 30% have earned doctorates, often with post-doctoral experience.

We support our professionals in continually enhancing and updating their knowledge and expertise by participating in professional symposia and conferences. We also provide financial assistance for graduate study, which includes awarding several scholarships each year to staff who wish to pursue full-time graduate programs in fields of study related to our areas of practice.

Experience

The complex, multifaceted nature of the issues faced by our clients demands a level of sophistication and insight that can be gained only through depth and breadth of experience. Most of our principals are nationally recognized experts in their fields, with at least fifteen years of relevant experience. They direct a group of talented professionals, of whom many have at least ten, and most have five years of relevant experience. These professionals come to ENVIRON from a variety of arenas, including academia, industry, government, public interest, and consulting. This diverse experience base brings together the perspectives and concerns of our clients and the parties who must be satisfied with the decisions they make.

Recognition

The expertise of our technical professionals is recognized in a variety of forums. Many have served on important committees that influence the direction and establishment of public policies and programs, including committees of the National Research Council, the National Toxicology Program, the National Institute of Environmental Health Science, and regulatory agencies. Our professionals have also provided legislative testimony in national matters related to the protection of human health and the environment.

Our technical experts are widely published in their fields. Many regularly contribute articles to peer-reviewed publications, sit on the editorial boards of professional journals, and present papers or chair sessions at professional symposia and conferences.

Diversified Disciplines

At ENVIRON, we bring together high-caliber professionals from diverse health science, environmental science, and engineering disciplines—from toxicology, epidemiology, and public health...to geology and hydrogeology...to civil, chemical, and environmental engineering, to name a few. We carefully select project teams from appropriate disciplines to ensure our clients a thorough analysis of all factors surrounding their risk management issues.

Sound Judgment

With the issues at stake in today's risk management decisions, error can lead to staggering liabilities. So the right solution is critical to success. At ENVIRON, we believe the right solution is the product of both technical acumen and sound judgment born of experience, expertise, and insight.

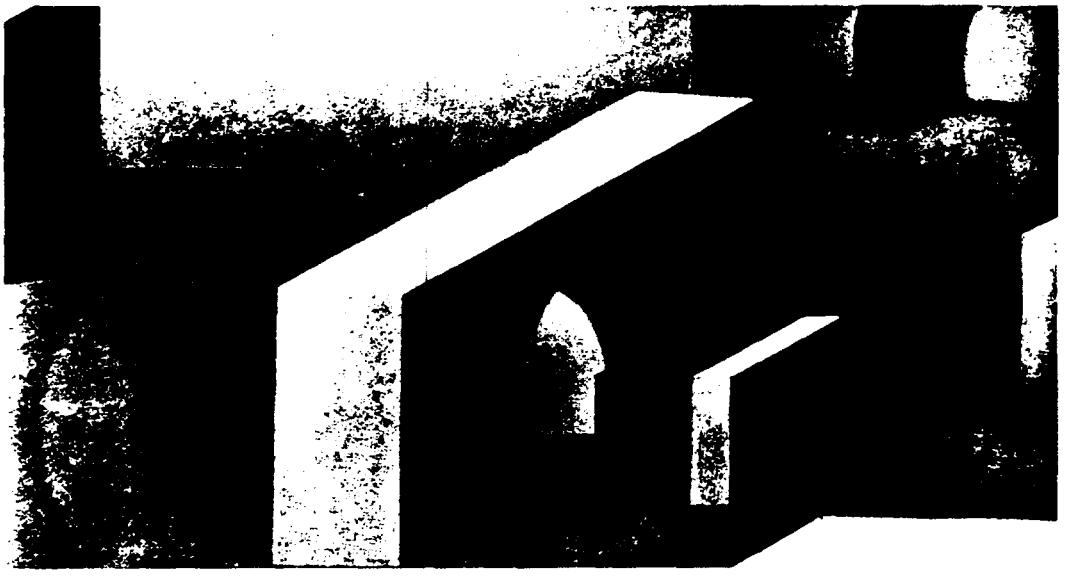
Developing the right solution is a multifaceted process that involves gathering and analyzing pertinent data, examining relevant issues—including the potential for future litigation, insurance claims, or other developments—and charting an appropriate course of action, even in the face of uncertainty.

Gathering and Analyzing Data

Because the questions we ask determine the answers we get, effective data gathering and analysis are vital to developing the right solution. And sound judgment is critical to ensuring that all pertinent information is examined from every relevant perspective.

Sometimes this means identifying both what information is essential and the best available sources for that information. Sometimes it means evaluating the validity of available data. Sometimes it means discerning whether relevant information is missing. And sometimes it means considering perspectives others have overlooked.

Whatever the case, ENVIRON's technical professionals consistently demonstrate the sound judgment essential to gathering and providing thorough, penetrating analyses of available data.



Developing the Right Solution

Since the answers we get are at times surprising or elusive, and are frequently attended by uncertainty, developing the right solution means charting the best course of action based on the best available facts.

Sometimes this means addressing unforeseen complexities in apparently routine situations. Sometimes it means challenging underlying assumptions. Sometimes it means recognizing opportunities for flexibility and innovation. And sometimes it means developing strategies in the absence of scientific or economic certainty.

Whatever the case, ENVIRON understands the needs of clients to proceed with the confidence that comes from considering all the consequences of their decisions. The consistently high caliber of our technical and strategic judgment assures decision makers that the choices we help them make today will be effective tomorrow.

Superfund Savvy

At two major Superfund sites that have received national attention, ENVIRON's analysis of the risks associated with implementation of the remedies mandated in EPA's records of decision played a key role in the PRP's successfully challenging those remedies.

In both instances, EPA had proposed extensive excavation and treatment of waste, which would have exposed both workers at the sites and nearby residential populations to unacceptable health risks. At one site, a federal judge ruled in favor of the PRP's proposed alternative. At the other, EPA withdrew the required remedy until further study could be completed.

The Power of Thought

A manufacturer had spent three years and $750,000 developing animal data on the possible carcinogenic effects of a new chemical product. The results looked good—no excess numbers of tumors were found in any of the animals exposed to the chemical. The manufacturer delivered the data to EPA, confident of a favorable decision. But agency scientists asserted that the manufacturer's toxicologists had not treated the animals with a sufficiently high dose of the chemical, and a cancer effect could therefore have been missed. EPA held that another study using a higher dose would have to be conducted. The manufacturer consulted ENVIRON to design a new study. Our scientists, however, believed that the tools of risk assessment, creatively employed, could convince EPA that a new study was not necessary.

ENVIRON conducted a "thought experiment," based on data from the completed study and knowledge about potential human exposure to the product. Our scientists posed the following

question: Assuming that the study were repeated, with one higher dose group added, and that all the animals receiving the higher dose developed tumors, what carcinogenic risk would be predicted using all the available data? The predicted risk was extremely small, and clearly well below the maximum EPA would find acceptable. Because it was not possible that an actual study would demonstrate a higher risk, EPA dropped the requirement for a second expensive, time-consuming cancer study, and approved the product.

Insightful Modeling

ENVIRON conducted ambient air modeling at two large, multisource facilities for a major industrial client, using data previously approved and submitted to the regulatory agencies by other consultants. Because the facilities were similar in configuration and surroundings, our scientists were perplexed that the modeling results showed one generating significantly higher cancer risks and a greater zone of impact than the other. This led them to examine the data for the many emissions sources at that facility more closely, and they determined that some of the values were different from what their experience told them to expect.

Even a competent modeler, if lacking in experience and insight, would have incorrectly concluded that a significant public health risk existed. But our scientists revisited the raw data with the client and discovered that, in fact, the suspect data points were incorrect. By reapplying the model with the correct data, ENVIRON was able to demonstrate the absence of significant risk associated with facility operations, and spare the client unnecessary public and regulatory outcry.

Effective Communication

Risk management decisions are presented in a variety of forums and must address a diversity of perspectives. The ability to synthesize and communicate complex technical, economic, and policy issues is critical to the successful adoption of proposed solutions. Because decision makers frequently rely on the support of technical experts to advocate their positions, effective communication is an integral component of a consulting engagement.

Critical to effective communication in all arenas is establishing credibility and trust. And in the regulatory, legal, business, and public forums that weigh risk management decisions, conveying complex information in a manner that clearly addresses the underlying concerns of these audiences is essential. At ENVIRON, our record of success in representing clients in these diverse forums is unparalleled.

Regulatory

We understand the underlying objectives of the policies and programs that address human health and environmental concerns, as well as the complexities of the laws and requirements mandated in the regulatory forum. This depth and breadth of policy expertise, along with clear and convincing arguments, establishes our credibility before regulators, whether a routine approach or an innovative, more cost-effective solution is proposed.

Legal

In the legal forum, where credentials are essential to establishing credibility and trust, our technical professionals are recognized experts. And our depth of experience in litigation support equips us to communicate clearly the complex issues and analyses upon which legal cases are based. Before judges and juries, where effective communication hinges upon clarity of thought and presentation, rather than technical jargon and obtuse reasoning, ENVIRON's skills play a key role in providing successful expert testimony.

Business

In the business arena, where a demonstrable record of success is so important to establishing credibility, ENVIRON's depth and breadth of experience have repeatedly won the confidence of decision makers. And because we realize that, along with public health and environmental concerns, economic realities and potential liabilities frequently hang in the balance, we have successfully earned the trust of clients who must weigh all these factors. Our technical professionals, using tools like decision analysis, communicate clearly with businesspeople, at the plant, corporate, and executive level.

Public

ENVIRON's history of persuasive, scientifically defensible work products readily establishes credibility in this forum, where an understanding of the health and safety concerns of individuals and communities is paramount. And in this arena where jargon and technicality can create distrust, our ability to provide lucid, technically sound explanations of the complex issues being weighed is indispensable.

Areas of **Practice**

Air Quality

Ecological Risk Assessment

Environmental Liability Assessment

Facility Siting & Permitting

Human Health Risk Assessment

Litigation Support

Occupational Health & Safety

Product Safety Regulation

Site Investigation

Site Remediation

Strategic Environmental Management

Waste Management

Water Quality Restoration

Water Resources Management

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